

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***EXECUTIVE SUMMARY***

PROPOSED  
Title V, Construction / Operating  
Permit: V-08-015  
Kentucky West Virginia Gas Company  
Dwale, KY 41621  
May 28, 2008  
Durga Patil, Reviewer

SOURCE ID:	21-071-00138
AGENCY INTEREST:	44058
ACTIVITY:	APE20080002

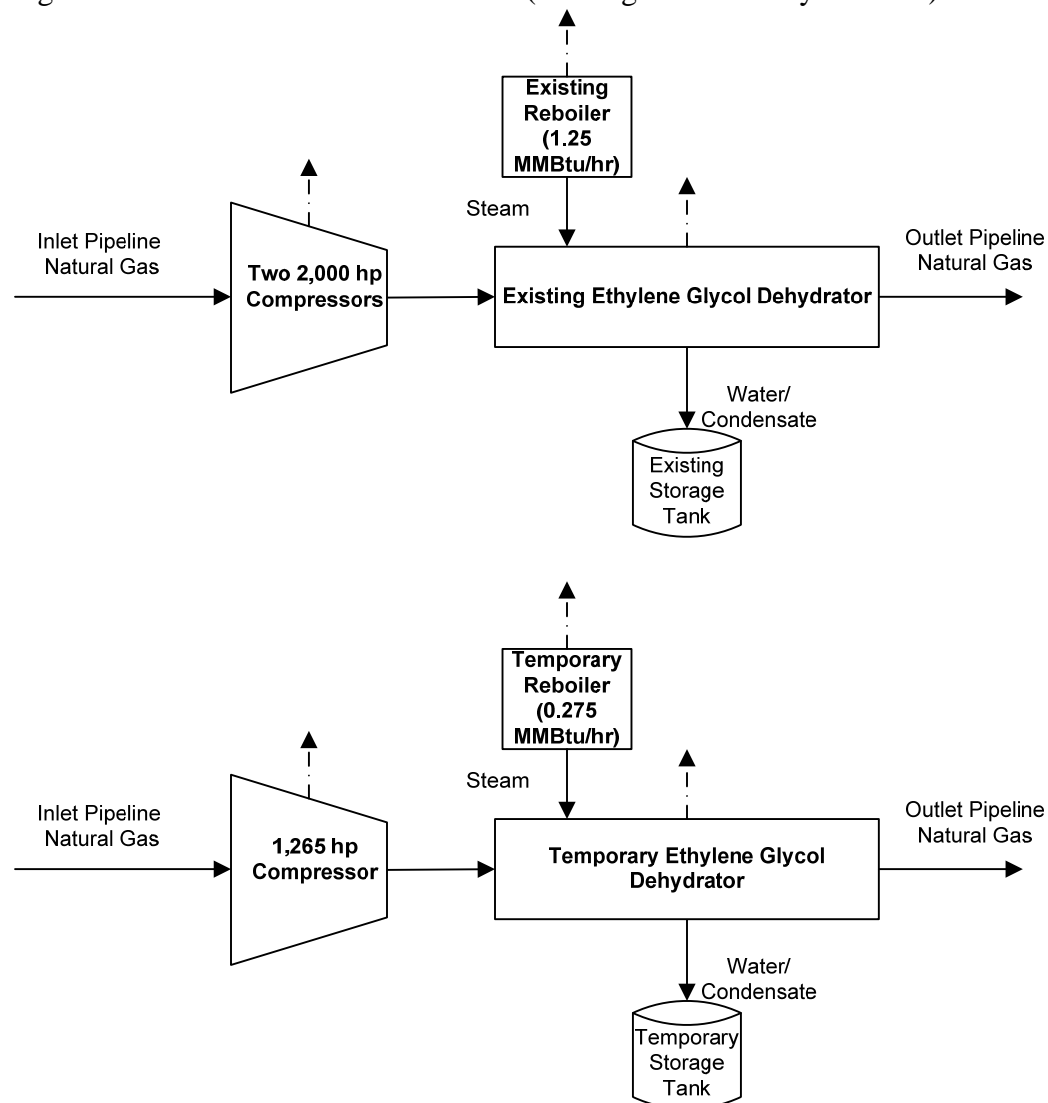
**SOURCE DESCRIPTION:**

On April 21, 2008, the permittee applied to the Division for the construction/operation of new temporary units for a limited time, at the existing natural gas compression station in Dwale, Kentucky (Dwale Station). The proposed modification will consist of construction and operation of one temporary natural gas-fired compressor of capacity 1,265 brake horsepower (bhp), one temporary triethylene glycol (TEG) dehydration unit operating at a maximum of 10 million standard cubic feet per day; with an associated reboiler of capacity 0.275 million British thermal units per hour (mmBtu/hr), and one 4,200 gallon condensate storage tank. The permittee will not operate these units longer than 945 hours and shall keep records of operating hours for the temporary units. Currently, the Dwale Station consists of the following emission units:

- Two natural gas-fired Cooper-Bessemer compressor engines, each installed in 1968 and having a maximum power output capacity of 2,000 horsepower (hp);
- One TulPro dehydration unit, installed in 1994 and having a maximum natural gas flowrate of 26 mmscfd. The emissions from this unit are controlled by a flare;
- One natural gas-fired reboiler, having a maximum heat input capacity of 1.25 mmBtu/hr;
- Tank #1, storing pipeline condensate and having a maximum capacity of 8,820 gallons;
- Tanks #2 and #3, storing used oil and having a maximum capacity of 1,000 and 1,025 gallons, respectively;
- Tank #4, storing compressed lube oil and having a maximum capacity of 2,000 gallons;
- Tank #5, storing triethylene glycol and having a maximum capacity of 1,550 gallons;
- Tank #6, storing diesel and having a maximum capacity of 100 gallons;
- Tanks #7 and #8, storing antifreeze and having a maximum capacity of 1,000 and 1,100 gallons, respectively; and
- One natural gas-fired emergency generator, having a maximum power output capacity of 80 hp.

With the proposed project, no modifications will be made to the existing process or emission units. The existing Dwale Station compresses natural gas as it is being shipped via pipeline. Natural gas enters the station via a distribution pipeline system and is first compressed using two (2) natural gas-fired compressors, identified as Units #1 and #2. The compressed natural gas stream is then processed through the existing TEG dehydration unit. The dehydration unit filters the natural gas and separates excess water using a distillation process in which heat is provided to the dehydration unit column by a natural gas-fired reboiler, which is rated at 1.25 mmBtu/hr. The natural gas stream from the dehydration unit is then reintroduced into the pipeline to be transported further along the distribution system. Liquid fractions removed from the natural gas via dehydration are stored in small storage tanks at the station. A process flow diagram, showing the relationship between each of the emission units described above, is included in Figure 1.

Figure 1. Dwale Station Process Flows (existing and temporary addition)



The Kentucky Hydrocarbons natural gas processing plant in Langley, KY will be shutdown on a temporary basis for maintenance purposes in June 2008. Therefore, natural gas flow to the Langley facility will have to be diverted to other facilities to maintain compression capacity on the Big Sandy pipeline in Eastern Kentucky during that timeframe, which is the premise for the proposed project at the Dwale Station.

The Dwale Station is currently operating under Title V General Permit No. G-04-001 (Revision 1), issued on May 27, 2005. Since the Dwale Station will be subject to specific operating and emission limitations, a separate Title V permit is being issued for this facility.

#### **PUBLIC AND AFFECTED STATE REVIEW:**

Affected states (West Virginia and Virginia) were notified of the issuance of the draft permit on April 29, 2008 via e-mail. On April 27, 2008, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in the Prestonsburg Floyd Co. Times in Prestonsburg, Kentucky. The public comment period expired 30 days from the date of publication.

No comments were received during this period. The final determination of this Division is that the proposed operation will comply with all air quality regulations and requirements. The permit is now being issued as proposed. A final permit will be issued after the U.S. EPA's 45-day review.